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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,167	10/12/2001	Frederick Paul Benning	ROC920010111US1	1982
7590				
12/08/2004				
James R. Nock			EXAMINER	
IBM Corporation			AHMED, SHAMIM	
3605 Highway 52 North				
Rochester, MN 55901-7829			ART UNIT	PAPER NUMBER
			1765	

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,167

Applicant(s)

BENNING ET AL.

Examiner

Shamim Ahmed

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18,35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18,35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/13/04 as to the fact that the combination of the teachings of Labib et al into the superfinishing polishing composition in the Hartog et al patent is not proper, which have been fully considered but they are not persuasive.

Applicants argue that one of ordinary skill in the art would not be motivated to apply teachings of adding the surfactant of Labib et al relating a cleaning composition into the superfinishing polish composition of Hartog et al because superfinishing polishing composition is not a cleaning composition.

In response, examiner states that the argument is not persuasive because Labib et al's teaching of introducing a surfactant in a composition enhances the performance of the composition by forming a steric hinderance barrier between the substrate and particles (col.15, lines 11-14).

Additionally, if the surfactant is added to the composition of Hartog et al, the modified composition will promote the polishing/removing or may be cleaning efficiency (see the rejection).

Examiner also states that both the polishing and cleaning are related art and well known as used to remove materials from a surface and it is desirable to remove particles or residue from a surface with faster rate as modified with the teaching of Labib et al.

It is noted that polishing is nothing but removing materials from a surface (see the rejection).

Furthermore, the superfinishing of a surface of a substrate is **an intended use of the composition** and the modified composition is capable of superfinishing a surface with the advantage of having the polished surface more cleaner.

Therefore, one of ordinary skill in the art would have been motivated to apply the Labib et al's teaching into Hartog et al's teaching in order to have a cleaner polished surface and it is desirable to an ordinary skill in the art, to have a cleaner surface in a subsequent processing of the polished surface.

So, the rejection of the previous office action is repeated herein as below:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1-6, 8-18 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartog et al (6,236,542) in view of Labib et al (6,454,871).

As to claims 1,11-12 and 35, Hartog et al disclose a cleaning polish etch composition comprises a carrying fluid such acid, neutral or base solution and metal etchant such as aluminum nitrate or cerium sulfate or any other etchant depending on the substrate for etching the substrate and/or the attached slurry particles (col.4, lines 19-28, col.5, lines 60-col.6, lines 17).

Hartog et al fail to teach the composition comprises a surfactant that forms a steric hindrance barrier between the substrate and the colloidal particles.

However, Labib et al teach a cleaning composition includes surfactant, wherein the surfactant causes weakening of the bonding and adhesion forces at the interface of the residue (particles) and the substrate surface to be cleaned and increasing the distance between the residue and the surface, commonly known as "steric effect" for easily removing particles or residue effect and which surfactant can be anionic, cationic or nonionic (col.15, lines 3-22).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of claimed invention to combine Labib et al's teaching of introducing a surfactant into Hartog et al's composition for easily removing particles or residue with the help of steric hinderance between the substrate and the particles as taught by Labib et al.

As to claims 2-3, Hartog et al teach that the substrate is a silicate based glass disk (col.4, lines 12-25).

As to claims 4-6, Hartog et al teach that the colloidal particles are silica based and pH of the composition could be about 1.0 (col.7, lines 8-13).

As to claim 8, Hartog et al teach that the pH of the composition could be above 3.0, which reads on claimed pH 3.5 (col.5, lines 40-43).

As to claims 9-10, Hartog et al teach that the colloidal particles have a size in the range of 0.001-1 μm (1-1000nm) (col.6, lines 25-29).

As to claim 36, Hartog et al teach that the colloidal particles have a size in the range of 0.001-1 μm (1-1000nm) (col.6, lines 25-29).

5. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartog et al (6,236,542) in view of Labib et al (6,454,871) and further in view of Small et al (6,251,150).

Modified Hartog et al discussed above in the paragraph 4 but fail to explicitly teach that the composition comprises colloidal alumina having a pH of about 3.5-10.5 (claim 8) or a pH of about 7-12 (claim 7).

However, Small et al (6,251,150) disclose a composition comprises colloidal particles of silica or alumina (aluminum oxide) having a pH of about 3.8-9.4 for maintaining the zeta potential of the slurry composition in order clean or remove the residue efficiently (col.10, lines 8-15, col.10, lines 48-51 and col.11, lines 4-7).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of claimed invention to combine Small et al's teaching into modified Hartog et al's composition for efficient removal of particles or residue as taught by Small et al.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (571) 272-1457. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G Norton can be reached on (571) 272-1465. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shamim Ahmed
Examiner
Art Unit 1765

SA
December 6, 2004